

26. The composition of claim 24 wherein the polar monomer is acrylic acid or methacrylic acid.
27. The composition of claim 1 wherein the polymer consists of a nonpolar monomer which is butyl methacrylate and a polar monomer which is acrylic acid and the acrylic acid is present at about 2-29% by weight of the total polymer.

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REMARKS

Claims 1-20 are pending in the application. Claims 1-19 are rejected under 35 USC 102.

Claims 3-4, 12, and 14-16 are rejected under 35 USC 103(a).

Claim 20

Applicants note that the Examiner did not reject claim 20. Accordingly, claim 19 has been amended to incorporate the limitations of claim 20, from which it depends, and to further include a more specific definition of the polymer as will be further described below. Applicants respectfully request the Examiner to consider the patentability of amended claim 19 which additionally contains all the limitations of unrejected claim 20.

The Rejection Under 35 USC 102

Claims 1-19 are rejected under 35 USC 102(b) as anticipated by Pagano, U.S. 5,772,988.

The Examiner contends that Pagano discloses nail enamel compositions containing butyl acetate, a polymer with a polar monomer (acrylic acid), pigments, a suspending agent, silicone glycol copolymer, and a plasticizer in both aqueous and anhydrous forms as well as a kit form for these compositions. The Examiner concludes that Pagano teaches all the limitations of these claims.

Applicants have amended the claims to clarify that the film forming polymer used in the claimed compositions is obtained by polymerizing two different types of monomers. One of the

monomers is an ethylenically unsaturated nonpolar monomer and the other monomer is a polar monomer of a certain structural formula as set forth in the claim. Support for this change is found on page 4, line 10 and page 8, lines 4 and 5. The amended claim is directed to a polymer formed by polymerizing two different types of monomers.

Pagano teaches a terpolymer, or a polymer that is obtained by polymerizing at least three monomers A, B, and C. While monomer A in Pagano is a nonpolar monomer, and monomer C is a polar monomer, the presence of monomer B is critical to the Pagano polymer composition. Monomer B is acetoacetoxyethylmethacrylate (see column 6, lines 25-27 of Pagano). In amended claim 1, the polymer is obtained by polymerizing only two types of monomers, none of which are Pagano's monomer B. Clearly, Pagano's monomer B is not a nonpolar ethylenically unsaturated monomer. Nor is it a polar monomer having the specific formula set forth in the amended claim. Further, there is simply no other way that the newly defined copolymer in claim 1 could contain Pagano's monomer B because it consists of only two different types monomers, in particular the two that are now defined in the claim. Claims 2-16 depend on claim 1 and since claim 1 does not anticipate these dependent claims cannot anticipate either.

Claim 17 is directed to a two component kit for painting the nails. The claim has been amended to specify that the film forming polymer in the nail enamel found in the first container is the composition defined in amended claim 1. While Pagano teaches two component kits, the kits taught must contain, in one container, the film forming terpolymer taught by Pagano. Amended claim 17 is directed to a kit having in the first container, a nail enamel composition containing a film forming polymer obtained by polymerizing only two different types of monomers as defined in the claim. Since amended claim 17 teaches limitations not found in Pagano, that reference

cannot by law anticipate. Claim 18 depends on claim 17 and if claim 17 is not anticipated by Pagano, claim 18 cannot be.

Claim 19, a method claim, has also been amended to clarify that the nail enamel composition in container one is as described in claim 1.

It is Applicants position that the amended claims contain limitations not found in Pagano, thus this reference cannot anticipate. The Examiner is respectfully requested to reconsider the rejection under 35 USC 102(b).

Claims 1, and 5-13 are rejected under 35 USC 102(b) as anticipated by Calello, U.S. 5,607,665. The Examiner contends that Calello teaches a nail enamel composition containing an aqueous solvent, acrylic polymer, pigment, silicone glycol copolymer and an associative thickener, and the polymer has a glass transition temperature and monomer in the claimed range.

Claim 1 has been amended as discussed above. The film forming polymer used in the claimed compositions is made by polymerizing two monomers as described in claim 1, one of which is a polar monomer of specific formula, which is present at 2-29% by weight of the total polymer. The film forming polymers taught in Calello, which are set forth in Column 2, lines 1-64, may be copolymers, but no polymers containing monomers having the specific formula in amended claim 1 are set forth. Accordingly, there are limitations in claim 1 and the claims that depend therefrom that are not found in Calello. Accordingly, this reference cannot anticipate.

The Examiner is respectfully requested to reconsider the rejection of the claims under 35 USC 102(b).

The Rejection Under 35 USC 103

Claims 3-4, 12, and 14-16 are rejected under 35 USC 103(a) as unpatentable over Calello.

The Examiner concludes that Calello provides the general guidance to make nail enamel with a non-aqueous base, so it is deemed obvious to one of ordinary skill in the art to manipulate the ranges of components to yield the desired effect.

Applicants respectfully disagree. First, it may be helpful to discuss the problem to be solved with the claimed compositions. The nail enamels disclosed in Pagano containing the claimed terpolymer were very effective commercial products sold by Revlon under the brand name Top Speed. Top Speed nail enamel provided excellent wear, gloss, and adhesion to the nail. However, one problem with the formula was that in certain individuals (in particular, those who used formaldehyde based products in care of their nails) sometimes reported that the Pagano formula caused their nails to turn yellow. While formaldehyde based nail care products are becoming unpopular because of concerns about the adverse effects of this ingredient on humans and the environment, many cosmetics companies still sell these types of products and they are popular with consumers because they are perceived to wear well. By the phrase "wear well" it is meant that the consumers who use these products perceive that the nail enamels tend to stay on the nail longer. While yellowing of the fingernails causes no deleterious physiological effects, it is not considered aesthetically appealing by consumers. Since it was not practical to instruct Top Speed users not to use formaldehyde based nail care products, another approach was necessary. The goal was to provide a nail enamel with the wear, gloss, and adhesion equivalent to Top Speed, that could be usable by all consumers regardless of what other types of nail care products they used, and most importantly, without the tendency to provide nail yellowing in consumers that used formaldehyde based products on their nails. Most unexpectedly, it was discovered that if

Pagano's B monomer (which was included in the terpolymer because it promoted adhesion to the nail) was removed and the film forming polymer was obtained by polymerizing only two different types of monomers, the resulting polymer provided wear that was equivalent to Pagano's formula, and without yellowing the nails of individuals that used formaldehyde based products.

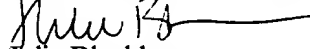
Applicants hereby submit the declaration of Frank Pagano. Pagano painted certain nails with a formaldehyde based nail enamel base coat sold under the Naitiques brand. A second coat of nail enamel containing the Pagano terpolymer was painted on one nail, as well as a coat of nail enamel containing the copolymer as set forth in the pending claims. After 24 hours, nails painted with the composition containing Pagano's terpolymer showed yellowing. The experiments were repeated by coating the nails first with a formaldehyde solution, then painting the nails with the Pagano compositions and the compositions of the claimed invention. The nails coated with the Pagano composition turned yellow within 24 hours while the nails painted with the claimed composition did not exhibit any yellowing, even when the nail was coated with formaldehyde prior to applying the nail enamel. Most unexpectedly, removing monomer B from the Pagano terpolymer and using a copolymer obtained by polymerizing the two specific types of monomers mentioned, in nail enamel provided a composition that did not yellow the nails even when the nails were first coated with considerable amounts of formaldehyde. Further, the wear of the nail enamel prepared with the copolymer of the claimed compositions exhibited excellent wear.

It is Applicants' position that none of the pending, amended claims are anticipated or obvious over Pagano. Pagano teaches nail enamel compositions containing a terpolymer. The claimed compositions are directed to a copolymer obtained by polymerizing two different types of

monomers. Further, the Pagano Declaration submitted herewith shows, most unexpectedly, that the claimed compositions provide improved results.

The Examiner is respectfully requested to reconsider the rejection of the claims under 35 USC 102 and 103.

Respectfully Submitted,



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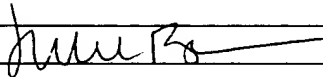
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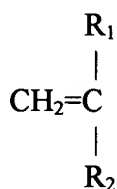
MARKED UP COPY OF CLAIMS TO SHOW CHANGES MADE

1. **(Amended)** A nail enamel composition comprising, by weight of the total composition:

10-95% solvent, and

5-95% of a polymer having a glass transition temperature in the range of 5 to 90°

C., obtained by polymerizing two different types of monomers wherein one monomer is a nonpolar ethylenically unsaturated monomer and the other monomer is a polar monomer of the formula:



wherein R₁ is H, or a C₁₋₃₀ straight or branched chain alkyl, aryl, or aralkyl; and R₂ is COOM

wherein M is H; (CHR₁)_nOH; (CH₂CH₂O)_nH; (CH₂)_nNR₁; (CHR₁CONR₁H) where n is 1-100,

[and containing about] and wherein the polar monomer is present at about 2 to 29% by weight of the total polymer [of at least one polar monomer].

17. **(Amended)** A two container kit for polishing nails comprising:

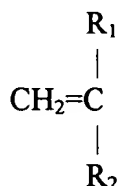
(a) a first container containing a nail enamel composition comprising, by weight of the total composition:

10-95% solvent, and

5-95% of a film forming polymer having a glass transition temperature in the range of 5 to

90° C. obtained by polymerizing two different types of monomers wherein one monomer is a

nonpolar ethylenically unsaturated monomer and the other monomer is a polar monomer of the formula:



wherein R_1 is H, or a C_{1-30} straight or branched chain alkyl, aryl, or aralkyl; and R_2 is COOM

wherein M is H; $(CHR_1)_nOH$; $(CH_2CH_2O)_nH$; $(CH_2)_nNR_1$; (CHR_1CONR_1H) where n is 1-100,

[and containing about] and wherein the polar monomer is present at about 2 to 29% by weight of the total polymer [of at least one polar monomer]; and

(b) a second container containing a nail enamel topcoat composition comprising, by weight of the total topcoat composition:

1-99% solvent, and

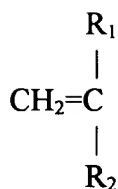
1-99% of a film forming polymer.

19. (Amended) A method for polishing the nails comprising:

(a) applying to the nails a first composition comprising, by weight of the total composition:

10-95% solvent, and

5-95% of a film forming polymer having a glass transition temperature in the range of 5 to 90° C. obtained by polymerizing two different types of monomers wherein one monomer is a nonpolar ethylenically unsaturated monomer and the other monomer is a polar monomer of the formula:



wherein R₁ is H, or a C₁₋₃₀ straight or branched chain alkyl, aryl, or aralkyl; and R₂ is COOM

wherein M is H; (CHR₁)_nOH; (CH₂CH₂O)_nH; (CH₂)_nNR₁; (CHR₁CONR₁H) where n is 1-100,

[and containing about] and wherein the polar monomer is present at about 2 to 29% by weight of
the total polymer [of at least one polar monomer]; and

(b) applying to the nails a second composition comprising, by weight of the total composition:

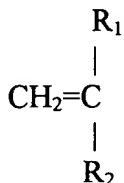
1-99% solvent, and

1-99% of an film forming polymer; wherein the dried film formed by (a) and (b) resides on
the nails for five to ten days.

20. Cancel.

PLEASE ADD THE FOLLOWING NEW CLAIMS:

21. The composition of claim 1 wherein the ethylenically unsaturated nonpolar monomer is a monofunctional monomer having the formula:



wherein R₁ is H, a C₁₋₃₀ straight or branched chain alkyl, aryl, aralkyl; R₂ is H, CH₃, a pyrrolidone,
or a substituted or unsubstituted aromatic, alicyclic, or bicyclic ring where the substituents are

C₁₋₃₀ straight or branched chain alkyl, or COOM wherein M is a C₁₋₃₀ straight or branched chain alkyl, pyrrolidone, or a substituted or unsubstituted aromatic, alicyclic, or bicyclic ring where the substituents are C₁₋₃₀ straight or branched chain alkyl which may be substituted with one or more halogens.

22. The composition of claim 22 wherein R₁ in the nonpolar monomer is H or a C₁₋₃₀ straight or branched chain alkyl, and R₂ in the nonpolar monomer is COOM wherein M is a C₁₋₃₀ straight or branched chain alkyl.

23. The composition of claim 22 wherein R₁ in the nonpolar monomer is H or methyl and R₂ in the nonpolar monomer is COOM wherein M is a C₁₋₄ alkyl.

24. The composition of claim 22 wherein R₁ is methyl and R₂ is COOM wherein M is butyl and the monomer is butyl methacrylate.

25. The composition of claim 24 wherein the polar monomer R₁ is H or methyl, and R₂ is COOM wherein M is H.

26. The composition of claim 24 wherein the polar monomer is acrylic acid or methacrylic acid.

27. The composition of claim 1 wherein the polymer consists of a nonpolar monomer which is butyl methacrylate and a polar monomer which is acrylic acid and the acrylic acid is present at about 2-29% by weight of the total polymer.